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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/713,578	11/16/2000	Kazuhiko Takaishi	3408.6494	3276

24978 7590 10/27/2003

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CHICAGO, IL 60606

EXAMINER
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WONG, KIN C

ART UNIT	PAPER NUMBER
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2651

DATE MAILED: 10/27/2003

8

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/713,578

Applicant(s)

TAKAISHI ET AL.

Examiner

K. Wong

Art Unit

2651

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 August 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,4-12 and 14-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-12 and 14-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All   b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other: \_\_\_\_\_

This is a response to amendment filed on 8/15/03.

***Claim Objections***

Claim 15 is objected under 37 CFR 1.75 (a) as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention because the recitation in line 12 of the claim recited the phrase "generating step" which the phrase "step" is a restricted legal phraseology in a apparatus claim. Moreover, this phrase is lacking of antecedent basis. The examiner has interpreted as "generating" or "control means generating" for this office action. An appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims (1-2, 4-12 and 14-20) are rejected under 35 U.S.C. 102(b) as being anticipated by Takaishi.

Regarding claim 11: Takaishi discloses a head positioning control device for a storage device for driving an actuator to position a head at a specified location on a disk and including:

a detection means (see col. 1, lines 50-55 and col. 15, lines 35-44 where Takaishi describes the acquiring of the present or current head position which requires a position detection) for detecting a present position of the head; and

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a control means (see col. 3, line 59 to col. 6, line 3 and col. 6, lines 22-57 of Takaishi) that performs coarse control without integral compensation or bias compensation and then performs settling control of the actuator based on the detected position;

wherein the control means performs settling control with integral compensation or bias compensation by estimating the position of the head for the next sample; and

estimating the initial bias value from the difference between the detected position and the estimated position (see col. 6, lines 4-64 and col. 12, lines 2-34 of Takaishi),

wherein the control means performs settling control by observer control (see col. 19, line 59 to col. 20, line 44 of Takaishi), and wherein the control means estimates the initial bias values at the start of settling (see col. 22, line 52 to col. 23, line 2-42 of Takaishi). The limitations of the claim are considering satisfied because Takaishi discloses a head settling control in a disk drive.

Regarding claim 12: Takaishi teaches that wherein the control means supplies at least at a target trajectory or feed-forward current, that is proportional to the initial position or initial velocity at the start of the settling, to a control system that performs the settling control (in col. 6, lines 33-37, col. 22, lines 52-62 and col. 24, lines 15-47 of Takaishi).

Regarding claim 14: Takaishi teaches that wherein the coarse control is velocity (or speed) control of the head in (col. 28, line 46 to col. 29, line 22 of Takaishi).

Regarding claim 15-20: claims (15-20) have limitations similar to those treated in the above rejections, and are met by the references as discussed above. Claim 15

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however also recites the following limitations of feedback control system which include long and short distance (or seek) that is met in col. 19, lines 59-65 and col. 22, line 1 to col. 23, line 3 of Takaishi.

Regarding method claims 1-2 and 4: the method claims (1-2 and 4) are drawn to the method of using the corresponding apparatus claimed in claims (11-12 and 14). Therefore method claims (1-2 and 4) correspond to apparatus claims (10-12 and 14) and are rejected for the same reasons of anticipation as used above.

Regarding method claims 5-10: method claims (5-10) are drawn to the method of using the corresponding apparatus claimed in claims (15-20) and claims (10-12 and 14). Therefore method claims (5-10) correspond to apparatus claims (15-20) and claims (11-12 and 14), and, are rejected for the same reasons of anticipation as used above.

### ***Response to Arguments***

Applicant's arguments filed 8/15/03 have been fully considered but they are not persuasive.

Regarding to the remarks on page 9 of the remarks filed on 8/15/03: applicants asserted that Takashi does not teach a settling control. Takaishi depicts a settling control in figure 6 and see the associated descriptions for details.

Regarding to the remarks on page 10 of the remarks filed on 8/15/03: applicants asserted that Takashi does not teach the settling control compensation at the start of the settling (or after the coarse control (or movement)). Takashi discloses the compensation that is at the start of the settling control and which is immediately after the coarse time (or movement) in col. 22, lines 52-62.

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Therefore, the rejection to the claims stands.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kurosawa (5111124), Ogawa et al (5126897), Ottesen et al (5894599) and Yatsu (5680271) cited for head position settling control.


Any inquiry concerning this communication should be directed to K. Wong whose telephone number is (703) 305-7772.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, D. Hudspeth, can be reached on (703) 308-4825. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Customer Service whose telephone number is (703) 306-0377.

kw

15 Oct 03



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